

broken on the side of the greatest enlargement, so that in cross-section it appears as a crescent partly inclosing the gall. The vascular bundles are pushed apart on the side where the swelling is greatest, and in cross-section form a crescent pattern instead of a ring. Small vascular bundles penetrate the tissues of the gall. The nutritive tissue is abundant and the sclerenchyma tissue is more abundant than in most lepidopterous galls.—MEL. T. COOK.

**Light and germination.**—Where light was supposed to be necessary for any considerable germination, LEHMAN finds<sup>49</sup> that in *Ranunculus sceleratus* other stimuli can be substituted for light. One per cent KNOP'S solution gives a greater percentage of germination in darkness than distilled water in light. In contrast to wet filter paper generally used as a substratum in such experiments, earth was found to stimulate germination greatly, water extracts of earth made by boiling were less effective, and extracts made with cold water showed no stimulation. If these seeds are exposed to germinative conditions in darkness for twenty or more days, light is then not effective. The author calls such seeds "dunkelhart" or "dunkelstarren," in contrast to the "lichtharte" seeds of *Nigella*.<sup>50</sup> *Stellaria media*, indifferent to light in its germination, was greatly stimulated by such substrata as KNOP'S solution and earth.—WILLIAM CROCKER.

**Selaginella preissiana.**—The extremely small xerophytic *Selaginella preissiana*, found in West Australia, Victoria, and Tasmania, is described by BRUCHMANN.<sup>51</sup> The cotyledons are slightly larger than the foliage leaves. The first dichotomy gives an erect branch about 3<sup>cm</sup> high; the other branch becomes the creeping rhizome, which gives off erect shoots right and left. Growth is by means of a single polyhedral apical cell. The stem is protostelic, the hypocotyl having a single exarch protoxylem point.

In the root there are three groups of initials: periblem and plerome having a common group, and dermatogen and calyptrogen each having a group. Root hairs are wanting, and epidermis and cortex are infested with an endophytic fungus. The hyphae were observed penetrating the epidermis from the soil.—W. J. G. LAND.

**Cellulose-forming enzyme.**—In continuing his capillary analysis of enzymes, GRÜSS<sup>52</sup> claims to have found, as his most important result, a cellulose-forming enzyme which he terms cytoagglutase. The material condensed was dissolved

<sup>49</sup> LEHMAN, ERNST, Zur Keimungsphysiologie und Biologie von *Ranunculus sceleratus* L. und einiger anderen Samen. Ber. Deutsch. Bot. Gesell. 27:476-494. 1909.

<sup>50</sup> KINZEL, WILHELM, Ueber den Einfluss des Lichtes auf die Keimung. "Licht-harte" Samen. Ber. Deutsch. Bot. Gesell. 25:269-276. 1907.

<sup>51</sup> BRUCHMANN, H., Ueber *Selaginella preissiana* Spring. Flora 100:288-295. figs. 8. 1910.

<sup>52</sup> GRÜSS, J., Kapillaranalyse einiger Enzyme. II. Ber. Deutsch. Bot. Gesell. 27:313-319. 1909.